



# Learn FileMaker Pro 19

The Comprehensive Guide to Building  
Custom Databases

—  
*Second Edition*

—  
Mark Conway Munro

Apress®

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## ***Learn FileMaker Pro 19: The Comprehensive Guide to Building Custom Databases***

Mark Conway Munro  
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*In loving memory of this noble beast.  
She was my loyal companion for 13 years.  
Rest in peace sweet girl.  
I miss you.*

***Apache Munro  
2007-2020***



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# About the Author

**Mark Conway Munro** is a software developer and the author of *AppleScript: Developer Reference* (2010, Wiley) and *Learn FileMaker Pro 16* (2017, Apress). After a 1988 introduction to FileMaker, Mark began using AppleScript and FileMaker for information management and process automation tasks. In 1994, Mark founded Write Track Media, a computer consultancy firm that develops custom database and workflow automation solutions. Mark builds time-saving custom systems for a diverse list of clients across industries, including education, entertainment, finance, news, publishing, manufacturing, and more. Understanding the virtue of using technology to free human focus from repetitive tasks so they can pursue a higher level of productivity, Mark is unwavering in his commitment to developing the highest-quality workflow management solutions.



# About the Technical Reviewer

**Brian Sanchez** is a FileMaker developer, business workflow consultant, and a founding member of aACE Software. Brian's experience is wide reaching. For over 25 years, he designed and implemented custom apps for inventory tracking, digital catalogs built with FileMaker Go, plus asset management and pricing tools. His eclectic client list includes catering businesses, event training companies, schools, TV casting agencies, and European vacationing services. Brian holds multiple FileMaker certifications. His development philosophy is to build systems with such integrity in the code and architecture that the client never needs to call again – unless they're looking to upgrade the solution. Brian served as the technical editor of *Learn FileMaker Pro 16* (2017, Apress).

# Foreword

In the 1990s and 2000s, I ran TECSoft, an AppleScript and FileMaker Pro development shop in New York City. Our specialty was database publishing – the powerful ability of Apple’s AppleScript technology to intelligently extract data from FileMaker databases and to format it ready for print in page layout applications such as QuarkXPress and Adobe InDesign.

We worked closely with Apple and Claris, the predecessor of FileMaker Inc., to showcase the abilities of their technologies. In 1994, growing – and needing additional developer talent – we asked our pal Eric Silver, the then New York area sales rep at Claris, to be on the lookout for us. He told me about a FileMaker wizard he knew named Mark Munro working at Jack Morton, an AV production company in New York.

Mark was responsible for organizing Morton’s production project data and managing their workflow. We met and he explained their workflow and showed me how he had organized it in FileMaker so that management was able to track projects from start to finish, track the various assets involved, and track and accurately bill their clients for the time and materials involved.

Mark’s work was amazing, and I immediately realized we had come across FileMaker gold. All aspects of his company’s workflow were logically organized in a functional workflow management tool and – most impressively of all – were clearly presented in an easy-to-follow interface. It is mind-bending to realize that Mark had accomplished this before FileMaker was a relational database.

We began working with Mark as a freelance FileMaker Pro and AppleScript gun slinger. We threw our most complicated and demanding projects at him – a huge workflow management and catalog publishing project at Sony Music and a very complex and mission-critical graphic file creation project with drop-dead deadlines for Associated Press, to name just a couple.

In short order, Mark had more than enough work to go out on his own as a full-time FileMaker and AppleScript developer. As TECSoft’s focus turned to working with Apple delivering AppleScript seminars and training sessions, we created the TECSoft Developers Consortium (TDC) to handle the huge demand for FileMaker and

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AppleScript integration projects our seminars generated. With Mark as TDC developer #1, we were able to create an international referral network of FileMaker Pro and AppleScript developers that became the largest FileMaker Pro and AppleScript brain trust on Earth.

Mark has now been running his own successful development company, Write Track Media, for over 25 years. What Mark possesses, more than any other developer I've worked with, is a true talent for organization. Mark's passion makes him eminently qualified to pass along his mastery of FileMaker's powerful organization tool. He just had to write this book.

—John Thorsen Jr.  
Connected Hearth, LLC

# Introduction

The previous edition of this book was published in 2017. In the introduction to *Learn FileMaker Pro 16*, I reminisced about my first encounter with the software working at Tannen's Magic Shop in Manhattan back in 1988 and highlighted the evolutionary changes that spanned the decades between. In the 3 years since that publication, the technological march forward has continued with improvements to the FileMaker application.

The product is now in version 19. The Apple subsidiary was renamed *Claris* to reflect an expanding product line with more diversity than the former FileMaker-centric offerings. The previous two versions of the desktop application – FileMaker Pro and FileMaker Pro Advanced – are now rolled into a single title that includes all development tools. Annual upgrades to the product have resulted in an accumulation of feature changes. To stay relevant and reflect the current software, a new edition was required.

In addition to revisions covering changes to the software, I was determined to make improvements to the original book. Some changes were in response to legitimate criticisms from readers. Although readers widely praised the first book, some thought there were too many pages focused on a function reference section that too closely resembles what is available in the online help guide. Others thought there were not enough real-world examples. I felt the original book could have been more succinct. I updated the text for feature changes and spent extra months completely rewriting each section and producing what is almost an entirely new book. I hope the effort shows.

## INTRODUCTION

I love hearing from readers and welcome any feedback or questions. If you enjoy the book, please consider posting a review on your favorite online bookseller's site and/or sharing on social media. Contact me directly by joining the *Learn FileMaker* FaceBook group and connecting to my professional network on LinkedIn or through my business website:

[facebook.com/groups/LearnFileMaker/](https://facebook.com/groups/LearnFileMaker/)

[linkedin.com/in/markconwaymunro](https://linkedin.com/in/markconwaymunro)

[writetrackmedia.com](https://writetrackmedia.com)

FileMaker is a highly capable tool used by millions worldwide. I hope you enjoy the book and that it helps you on your journey.

—Mark Conway Munro  
December 2020, Lewisburg, PA

# PART I

## Using FileMaker

The FileMaker Pro desktop application merges a user interface and development environment into a single experience. These chapters focus on the user experience to serve as an introduction to the platform's features:

1. *Introducing FileMaker*
2. *Exploring the Application*
3. *Exploring a Database Window*
4. *Working with Records*
5. *Transferring Data*